

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (currently amended): An apparatus for control of an alternating current appliance, said apparatus being entirely resident within either an appliance plug or a plug-in module, said plug or plug-in module comprising power delivery conductors, and said apparatus comprising a programmable control means controller which is programmable exclusively through a plurality of the power delivery conductors and a plurality of electrical connections to programming means.

Claims 2-26. (canceled)

Claim 27. (new): The apparatus of claim 1 wherein said plurality numbers no more than four.

Claim 28. (new): The apparatus of claim 27 wherein two of said no more than four are electrically shorted together such that said plurality of power delivery conductors consists of three electrically unique power delivery conductors.

Claim 29. (new): The apparatus of claim 28 wherein a programming signal is applied to two of said three electrically unique power delivery conductors.

Claim 30. (new): The apparatus of claim 29 wherein said programming signal comprises a series of pulses.

Claim 31. (new): The apparatus of claim 28 wherein a data line and a clock line of said controller are controlled by application of a programming signal applied to two of said three electrically unique power delivery conductors.

Claim 32. (new): The apparatus of claim 28 wherein a mixture of direct and alternating current signals is applied to two of said three electrically unique power delivery conductors.

Claim 33. (new): The apparatus of claim 32 wherein said mixture of direct and alternating current signals places said programmable controller into a programming mode.

Claim 34. (new): The apparatus of claim 33 wherein at least one of said signals comprises a high frequency signal.

Claim 35. (new): The apparatus of claim 1 wherein said programmable controller is electronically configured to implement a set of control actions.

Claim 36. (new): The apparatus of claim 1 wherein said programmable controller comprises a microcontroller.

Claim 37. (new): The apparatus of claim 1 wherein said controller controls an element selected from the group consisting of thyristors, transistors, triacs, and combinations thereof.

Claim 38. (new): The apparatus of claim 1 wherein said programmable controller is programmed via electronic signals from a programmer.

Claim 39. (new): The apparatus of claim 1 wherein the controller is programmable after said apparatus is assembled and the controller of the apparatus is entirely resident within said appliance plug or a plug-in module.

Claim 40. (new): The apparatus of claim 1 wherein said apparatus enables an appliance electrically connected thereto to operate in a manner different from that originally intended.

Claim 42. (new): A method for control of an alternating current appliance, the method comprising the steps of:

- providing a programmable controller;
- providing an appliance plug or a plug-in module;
- disposing the programmable controller within the appliance plug or plug-in module;
- providing a plurality of electrical power delivery conductors;
- programming the controller by applying one or more signals to two or more of the power delivery conductors.

Claim 43. (new): The method of claim 42 wherein the programming step comprises applying one or more signals to no more than three of the power delivery conductors.

Claim 44. (new): The method of claim 42 additionally comprising programming the programmable controller with electronic signals communicated from a programmer to the controller through one or more of the power delivery conductors after the controller has been disposed in the appliance plug or plug-in module.

Claim 45. (new): The method of claim 42 additionally comprising the step of applying a high frequency signal to two of the power delivery conductors to place the programmable controller into a programming mode.

Claim 46. (new): The method of claim 44 additionally comprising the step of applying a series of pulses applied to two of the power delivery conductors to control both data and clock lines during programming.

Claim 47. (original): The method of claim 44 additionally comprising applying a mixture of direct current and alternating current signals to two of the power delivery conductors to place the programmable controller into a programming mode.

Claim 48. (new): The method of claim 42 additionally comprising the step of electronically configuring the programmable controller to implement a set of control actions.

Claim 49. (new): The method of claim 48 wherein the step of providing a programmable controller comprises providing a microcontroller.

Claim 50. (new): The method of claim 42 further comprising the step of providing an element selected from the group consisting of thyristors, transistors, triacs, and combinations thereof.

Claim 51. (new): The method of claim 42 additionally comprising the step of controlling an appliance by programming the programmable controller so as to enable the appliance to perform in a manner different from its original design.

Claim 52. (new): An apparatus for powering an electrical network comprising:
a programmable controller; and
electrostatic discharge protection diodes internal to said programmable controller
and excluding rectification elements of a DC power supply external to said controller;
wherein said internal electrostatic discharge protection diodes provide a source of direct current for said controller.

Claim 53. (new): The apparatus of claim 52 wherein each of said internal electrostatic discharge protection diodes are paralleled by a MOSFET transistor that forms an alternative conducting path around said internal electrostatic discharge protection diodes.

Claim 54. (new): The apparatus of claim 53 wherein said alternative conducting path allows firing of a thyristor during a portion of an AC cycle when said internal electrostatic discharge protection diodes are not conducting.

Claim 55. (new): The apparatus of claim 52 additionally comprising an internal MOSFET transistor that is in parallel with one of said internal electrostatic discharge protection diodes, wherein while applying a gate voltage to a thyristor said MOSFET ensures that said thyristor is turned on.